



THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
Steven Tysoe et al.

Serial No.: 10/672,623

Filed: September 26, 2003

For: SOFT MAGNETIC PARTICLES
METHODS OF MAKING AND
ARTICLES FORMED
THEREFROM

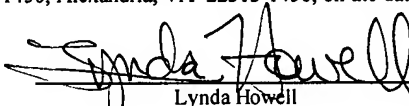
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Group Art Unit: 1773

Examiner: Le, Hoa T.

Atty. Docket: 134763-1/YOD
GERD:0381

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September 11, 2006	
Date	Lynda Howell

PRE-APPEAL BRIEF REQUEST FOR REVIEW

In respect to the Final Office Action of May 10, 2006, Appellants respectfully submit this Pre-Appeal Brief Request for Review. This Request is being filed concurrently with a Notice of Appeal. The Examiner rejected pending claims 1-7 and 25-36 under 35 U.S.C. §102(e). Of these, claims 1, 25, and 31 are independent.

Claims 1 and 25

Claims 1 and 25 were rejected under 35 U.S.C. § 102(e) as being anticipated by Moro et. al., U.S. Patent No. 6,940,388 (hereinafter "Moro").

Independent claims 1 and 25 recite a soft magnetic material comprising an elongated first portion formed of a soft magnetic material and a second portion disposed on the first portion, the second portion being formed of an electrically insulating material.

For a reference to be anticipatory, each and every element of Appellants' claims must be present in a single reference. The Examiner stated in the Final Office Action (page 2, section 2.1) that Moro discloses:

“[t]he shape of the ferromagnetic metal powder, without any particular limitation, may be spherical or flat.” (emphasis added) (col. 3, line 27-29). Thus, the magnetic material powder is not limited to just spherical or flat. Moreover, a flat shape broadly includes elongated shape.

According to Moro, the ferromagnetic metal powder may be spherical or flat. Appellants observe that the Examiner analysis seems to have mischaracterized the above statement to include shapes other than spherical and flat. However, Moro does not *teach* or *disclose* shapes other than spherical and flat to the metal powder.

Further, the Examiner argued that a flat shape broadly includes elongated shape. Appellants observe that this statement is simply incorrect. A “flat” particle does not imply an elongated particle. The commonly understood meaning of the term “elongated” as used in the present application indicates that one dimension of the particle exceeds the other two dimensions. By contrast, the commonly understood meaning of the term “flat” as used in Moro implies that two dimensions of the particle will exceed a third dimension. Appellants believe that these plain meanings are simply beyond dispute. Therefore, the claimed elongated particles are not taught by the reference to “flat” particles in Moro.

In practice, the shape of the particles of the present application is believed to affect the magnetic properties. The present application (paragraph 20, 27 and 28) states:

It has been determined that the shape of first portion 22 can effect the magnetic properties exhibited by electromagnetic devices 10. Specifically, it has been found that electromagnetic devices 10 exhibit increased magnetic properties with particles 20 having an elongated shape as

compared to, for example, spherical particles. For example, particle 20 can have an aspect ratio of between about 20 to about 500.

Advantageously, particle 20 having the aforementioned elongated first portion and thin, uniform second portion 24 is configured to provide electromagnetic devices 10 with a core loss of less than about 6 Watts per pound at a magnetic flux density of about 1 Tesla and a frequency of about 60 Hertz. In other embodiments, particle 20 is configured to provide electromagnetic devices 10 with a core loss of less than about 2.5 Watts per pound at a magnetic flux density of about 1 Tesla and a frequency of about 60 Hertz. Further, particle 20 having the aforementioned elongated first portion and thin, uniform second portion 24 provides electromagnetic devices 10 with a magnetic permeability of greater than about 1000 at a magnetic flux density of about 1 Tesla and a frequency of about 60 Hertz.

Thus, the elongated shape of particles 20 is particularly configured to provide electromagnetic devices 10 having minimal core losses and high permeability.

The present application describes that the particles having an elongated shape exhibit better magnetic property as compared to particles having other shapes. The shape of the particle is integral to provide desired magnetic flux density. Moreover, the aspect ratio of the present particle, as defined as the ratio of the largest dimension of particle to the smallest dimension, indicates an elongated particle. Thus, both by the plain meaning of the terminology, and the distinctions in the underlying properties owing to the claimed shape, Moro cannot anticipate the “elongated” particles claimed.

Claims 2, 25 and 31

Claims 2, 25 and 31 were rejected under 35 U.S.C. § 102(e) as being anticipated by Moro.

Claims 2, 25 and 31 recite a soft magnetic particle comprising a first portion formed of a soft magnetic material and a second portion disposed on the first portion in an amount from about 0.05 weight percent to about 0.15 weight percent. Claim 2 is believed to be patentable as it depends directly from presumably allowable claim 1. In

addition, Moro does not teach or disclose the range mentioned in the claims 2, 25 and 31.

Moro discloses:

The amount of methyl-phenyl silicone resin to be added is in a range from 0.3 to 5.0 wt % and preferably 0.5 to 3.0 wt % based on the ferromagnetic powder. When the amount of methyl-phenyl silicone resin to be added is 0.3 wt % or less, insulation between the ferromagnetic metal powder particles in the dust core is insufficient and therefore eddy current loss is increased, resulting in increased core loss. (col 5, lines 10-17)

Appellants believe that the Examiner has misinterpreted “0.3 wt % or less” of Moro to include the range “0.05 weight percent to about 0.15 weight percent” as recited in the instant claims. The range “0.3 wt % or less” does not include Appellants’ range unless the reference clearly mentions the range “0.05 weight percent to about 0.15 weight percent”. However, Moro does not *teach or disclose* the weight percentages of the instant claims.

Secondly, the Examiner cited *In re Nehrenberg* (CCPA), 129 USPQ 383, to reject the instant claims. As best understood, the Examiner’s argument is that when the prior art discloses specific ranges, but then adds that those ranges are not preferred, the mention may nevertheless be relied upon for anticipation. The present case is clearly distinguishable. If Moro disclosed the range recited in claims 2, 25 and 31 *at all*, and then taught that it was useful only for certain limited purposes, or even should be avoided, the Examiner may have grounds to argue that the range is nevertheless taught. In this case, however, Moro simply *does not disclose* the range of claims 2, 25 and 31. Moro only mentions other, much higher ranges for weight percentages of insulation coatings on flat magnetic particles. Nowhere in the reference are *any other* weight percentage ranges mentioned, or even dispelled as undesirable or not preferred.

Rebuttal to Examiner's Advisory

In the Advisory (page 4, section 2.1), the Examiner reiterated that "Moro discloses a flat shape having an aspect ratio of 5 to 25, which ratio is clearly a description of an elongated shape."

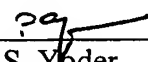
Appellants disagree with the Examiner's argument. The aspect ratio as defined in Moro refers to the ratio of flattening (col. 3, lines 41-43). The aspect ratio of Moro would imply a ratio of dimension of flattened surface to the second dimension that is not flattened. As best understood, the aspect ratio of 5 to 25 of Moro refers to a flat spherical disk having a thickness of 5 units and a diameter of 25 units.

With regard to the Advisory (page 4, section 2.3), the Examiner seems to have mischaracterized Appellants earlier argument that "Moro teaches away from the range mentioned in the current claim, stating simply that thinner coatings will not function at all." This is incorrect. Appellants' stated position is that Moro does not disclose the range recited in the instant claims. For *In re Nehrenberg* to be applicable, the reference has to be anticipatory. Moro simply *does not disclose* the range of claims 2, 25 and 31. Hence, the Examiner's reliance on *In re Nehrenberg* is misplaced.

For all the above reasons, Appellants respectfully request that the Panel instruct the Examiner to withdraw the outstanding rejections and allow the pending claims.

Respectfully submitted,

Date: 9/11/2006



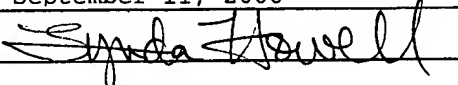

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		First Named Inventor Steven Tysoe	
		Art Unit 1773	Examiner Le, Hoa T.
Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.			
This request is being filed with a notice of appeal.			
The review is requested for the reason(s) stated on the attached sheet(s). Note: No more than five (5) pages may be provided.			
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<input checked="" type="checkbox"/> *Total of <u>1</u> forms are submitted.			

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